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THE VETERINARY JOURNAL

A Monthly Review of Veterinary Science.

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JULY, 1924.

Editorial

SHOULD THE PROFESSIONAL PRESS SUPPORT "CURE ALLS" AND QUACK REMEDIES?

"The day has arrived, it seems, when, according to advertisements, a patent remedy for one ailment will cure all others. Every article advertised is universally applicable."—(A recent article.)

Viscountess Gargle, whose husband is known as the Brighton Peer, says of Glubbo: "No praise can be too high for it. It cured my cough in two hours, and removed the stains from the mahogany table in four. My maids use it for our boots, as also for taps and cutlery. And I find that a sprinkling of it improves jellies, joints of meat, porridge, and even soda water. As a saddle-soap it is unrivalled, while my gardener swears by it as an exterminator of badgers and greenfly. Hops thrive on it, as do canaries and the coachman's boy (who steals it)."

Now do let me send you a box—may I?

The above quotation from a recent issue of the *Daily Express* is one of the most sarcastic truths which has appeared for some time, and thoroughly expresses the value of a large proportion of the "cure all" remedies which are so largely advertised as being efficacious for the prevention and cure of the diseases which scientists are at present honest enough to acknowledge that they are still puzzled over. That any professional paper should support the quack medicine vendor ought to be unthinkable. Quack remedies which assert their power to cure all aches and pains when applied externally, and others which claim equally to *cure* such baffling diseases as Tuberculosis,

Distemper, and Johne's Disease, should not find a place in our or any other professional Press.

We are well aware that it is exceedingly difficult to define what comes under the heading of a quack remedy, and that the policies adopted by professional papers vary very greatly, but there are certain advertisements of remedies which either by the extravagance of their claims or the acknowledged incorrectness of their statements are rightly excluded from the professional Press.

Apart, however, from the ethics of the case, it is surely ludicrous, not to say ignominious, for a professional journal to advertise to professional men "cures" for diseases which are admittedly incurable; or "remedies" which, though they may be harmless, are known not to fulfil what is claimed for them. Such appeals may hoodwink the layman, but they cannot deceive either the doctor or the veterinarian. But the rub is that when an advertisement appears in a professional paper, it *ipso facto* receives the endorsement of the profession, and the advertiser is entitled to describe the preparation in the lay Press "as advertised to the veterinary or the medical profession," which being interpreted means nothing more nor less to the man-in-the-street than "as approved of by the medical or veterinary profession."

A man is judged by the outsider by the style of his writings (apart from personal contact it is not possible to do otherwise); a profession is judged by its Press. It therefore behoves those concerned to watch jealously over their journals, and to leave no stone unturned to ensure that they maintain the highest possible standard.

"AN ANNOUNCEMENT TO THE VETERINARY PROFESSION."

Our attention has been drawn to an announcement stating that a proposal has been made to establish an organisation or society whereby veterinary practitioners may co-operate to produce a full range of medicines and foods, based on recognised formulæ and (through a distributing house which would be maintained by the organisation) to retail these products to farmers and cattle breeders direct.

We trust that the reply to this by the members of our profession will be the one which it deserves, and that they will refuse to a man to have anything to do with it. The organisers of the scheme do not seem to realise that it is not the treatment which matters most: *it is the diagnosis which is of the primary importance, and that can only be made with accuracy by the properly trained and qualified veterinarian.* To take shares in such a company would, in our opinion, be coun-

tenancing quack treatment, and it would only add one more to the number of medicine-vending companies which compete daily with the qualified veterinarian in his effort to get a professional livelihood, by sending so-called " remedies " direct to his *clientèle*.

It is quite a different thing for a man to send out boxes of emergency medicine to *his own* clients, and this might be done to a much greater extent to the mutual benefit of both, as it has the great advantage that the man who is called in to follow up the case knows at any rate what drugs have been administered. The old adage that " a man who is his own lawyer has a fool for a client " can well be paraphrased so that it applies to the veterinary surgeon's client too, and it is all the more to be deprecated in the case of the application of remedies to dumb animals, as they have no power to object, such as is possible in the patients of the human physician.

THE NEW RESEARCH LABORATORY AT CAMDEN TOWN.

THE profession will have seen with pleasure the announcement in the professional and lay Press that the foundation-stone of the new Research Laboratory at the Royal Veterinary College, Camden Town, had been laid on the 23rd of May by no less a distinguished gentleman than His Royal Highness the Duke of Connaught.

The ceremony was attended by a representative number of the profession, and the Chairman of the Board of Governors (Lord Northbrook) dilated upon the enormous difficulties which the lack of financial support had put in front of those who were endeavouring to carry out veterinary research. The Duke of Connaught alluded to the same subject, and stated that the research into the diseases of animals was of the utmost importance not only for the animals themselves but on account of the contributions which it could make towards the prevention and cure of the diseases of man. The Minister of Agriculture, the Right Hon. Noel Buxton, M.P., too, corroborated the importance of animal research, and the speeches which were made by various officials of importance go to hope that in the future the neglect which has been our portion in the past will now be completely done away with. It must have been a proud moment for Sir John McFadyean to see the fulfilment of his work in this direction, and the buildings which are being erected under his personal eye and instructions will be a memento of the great work which he has contributed in the fight against the diseases in the animal world.

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General Articles

THE REJUVENATION OF ANIMALS BY DR. VORONOFF'S METHOD.

COMMUNICATED BY DR. E. H. HANKIN, D.Sc.,
Norwich.

IT is well known that secondary sexual characters fail to appear in animals whose sex glands have been removed. Dr. Voronoff observed that, in man, removal of the sex glands is followed by premature senescence. This phenomenon is more marked in man than in animals because, as Dr. Voronoff suggests, the operation in man is usually carried out in early life. In animals it is generally carried out in adults, that is to say after the glands have been able to affect the system by means of their internal secretion. Hence he concluded that the general upkeep of the body is dependent on this internal secretion, and that senile decay is caused by its cessation. If this is the case, one may anticipate that such decay might be arrested or remedied by grafting a sex gland from a young animal into the body of an animal whose sex glands had ceased to function. To make successful grafts of this nature was a matter of considerable difficulty. After attempts to graft under the skin, in the muscles, in the liver, and in other organs, Dr. Voronoff at length discovered that the gland could be grafted successfully between the layers of the *tunica vaginalis*. The reason for this appears to be that, in this position, serum is readily exuded, and this nourishes the grafted gland until a vascular system has been developed. The operation itself is quite simple, and is described by him in his pamphlet *Greffes Testiculaires* (Paris, Librarie Octave Doin, 8 Place de l'Odeon, 1922). On a visit to Dr. Voronoff's laboratory, striking results of such experiments were seen. For instance, a goat had been castrated at the age of six months. Testicles of another goat were grafted into it. Four years later this goat, instead of having the aspect of a castrated animal, had grown to a remarkably large size and its horns were well developed. It showed all the effects of the testicular hormone including sexual ardour. Another goat had testicles grafted into it without previous castration. Its system, therefore, was exposed both to the normal testicular hormone and also to the hormone derived from the ingrafted testicles. The result of this surplus of endocrine secretion was remarkable. The horns developed till they were nearly 3 feet in span. Its hair grew to a length of 8 or 9 inches. It became excessively pugnacious, and therefore had

to be killed. This result suggests that in the case of man it would not be safe to make a testicular graft till there are clear signs that the patient's testicles have completely abrogated their functions. Dr. Voronoff has also experimented on rams. An old ram, aged between ten and twelve years, showing extreme senile decrepitude, had grafted into it testicles from a young ram. The date of the experiment was May 1918. About two months later a clear improvement in its condition was noticeable. A sheep kept in the stable with it produced offspring in 1919. Fourteen months after the operation the grafted pieces of testicle were removed for histological examination. Within three months the condition of the animal had deteriorated. It again presented the appearances of old age. Another graft was made into it in June 1920. Rejuvenation again occurred, but more slowly than after the first operation. The animal at the present time (November 1922) appears to be in full health and vigour. It is found that grafted testicles are apt to be absorbed ultimately, but, as shown in many experiments, a further graft always produces a fresh access of energy and strength. Such results have emboldened Dr. Voronoff to make testicular grafts in man. His pamphlet contains details of eight cases in which grafts of testicles of baboons have been made into human patients with generally encouraging results. In all cases in which the graft has succeeded (six out of eight) there has been an improvement in health and strength. Virile power has generally, but not always, reappeared. Dr. Voronoff commenced grafts of testicles of chimpanzees in March 1922. He finds that the organs of these anthropoid apes are always perfectly tolerated by human tissues, which is not always the case with the testicles of baboons. Hence he considers that chimpanzees are more suitable for the operation. As full details of the method have been published, Dr. Voronoff wishes to leave to others further applications of the process to human patients.

There is some risk of the sensational aspect of Dr. Voronoff's discoveries detracting attention from their scientific interest. Among the many questions that they prompt, one may ask whether or not it is accidental that, in making thyroid grafts in man, Dr. Voronoff has obtained better results when using the thyroids of monkeys than when using glands of human origin? Though the grafted testicle is incapable of producing functioning spermatozoa, it affects the testicle of the host. In doing so does it modify in any way the germ plasm? It has also been asked whether the grafting of any other organ, for instance bone marrow, would produce a stimulating effect. As regards the practical applications of Dr. Voronoff's discoveries, it may be suggested that the rejuvenation of valuable breeding stock,

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such as horses and bulls, besides being of commercial value if successful, would be more likely to add to scientific knowledge than further experiments on human beings.

A PRELIMINARY NOTE ON THE TREATMENT OF TUBERCULOSIS IN CATTLE WITH SODIUM MORRHUATE.

By W. L. LITTLE, F.R.C.V.S.,
Reading.

During the past fifteen months six cases have been treated. A 3 per cent. solution in cold, boiled, distilled water with ½ per cent. carbolic acid added was used, as recommended by Sir Leonard Rogers, C.I.E., F.R.S.

The dose ranged from 8 c.c. to 20 c.c. of the solution, and was given subcutaneously in various parts of the body, the position being changed for each successive dose, as it was found that, particularly with the larger doses, a slight induration of the skin was produced. This, however, disappears.

Case I.—A roan shorthorn cow, five years old, which had reacted to the tuberculin tests on February 25, 1923, and March 15, 1923, was in fair condition on April 20, 1923.

April 20, 1923.—Temperature 102·2° F.; respirations appeared normal; a slight *râle* could be heard in the centre of right lung; all accessible lymphatic glands appeared normal.

Eight c.c. of the solution was injected.

April 21*st.*—Temperature 103·4° F.; respirations accelerated; appeared slightly ill; reaction.

April 22*nd.*—Temperature 102·5° F.; respirations becoming more normal.

April 30*th.*—Temperature 102·5° F.; 6 c.c. of solution given; no reaction shown.

May 7*th.*—8 c.c. injected; no reaction.

May 12*th.*—10 c.c. injected; no reaction.

May 17*th.*—10 c.c. injected; no reaction.

May 19*th.*—Being dry, she was turned away to grass, and no further treatment could be carried out.

June 25*th.*—She was now springing for calving and appeared in good condition, having improved.

July 3*rd.*—Gave a marked reaction to the ophthalmic tuberculin test. Her condition was good as compared with a barren two-year-old non-tubercular (not reacting to tuberculin) heifer with which she was turned out. Sold.

This case was most interesting, showing that when phthisis is

suspected one should start with small doses and watch carefully for any reaction, as more harm than good may be done. This, I believe, is found to be the case in the treatment of the human subject. It showed also that cattle will gain a tolerance for the drug.

This animal was kept isolated from other cattle until turned to grass with the heifer. It was not possible to keep her in ideal surroundings. Under the circumstances, her condition was thought to be very satisfactory when sold, her owner expecting her to break up at any time.

CASE II.—A red and white shorthorn cow, about seven years old, giving a good yield of milk. The submaxillary and parotid lymphatic glands on the left side were much enlarged and discharging pus from two sinuses; there was a good deal of induration around the lesion, which had been in existence for several months before treatment was commenced. Smears of pus were examined for acid-fast bacilli with negative results. Before using sodium morrhuate she had been treated with iodides internally and antiseptics externally without any apparent benefit.

At the commencement of treatment with sodium morrhuate she gave a marked reaction to the ophthalmic tuberculin test, and again on May 10, 1923.

April 22nd.—Temperature 101° F.; 8 c.c. injected.

April 23rd.—Temperature 101·8° F.; no reaction.

April 26th.—15 c.c. injected.

April 27th.—Slight local reaction; slightly increased discharge.

May 8th.—Both sinuses closed; 15 c.c. injected.

May 12th.—15 c.c. injected; no reaction.

May 17th.—No discharge seen for several days; 16 c.c. injected; no reaction.

May 23rd.—16 c.c. injected; no reaction.

May 31st.—20 c.c. injected; no reaction; swelling nearly gone; no discharge.

June 4th.—18 c.c. injected; no reaction; wounds closed and swelling reduced to a slight thickening of the skin.

June 11th.—20 c.c. injected; no reaction.

June 14th.—Only cicatrix to be seen.

July 9th.—Lesion appears perfectly healed, and has remained so up to date (July 1924).

This case never showed any general reaction to the injections. Occasionally, at first, the discharge from the sinuses was slightly increased the day after injection. Treatment was extended over fifty days, and, as the lesion appeared healed, was not continued.

There seems to be no doubt that great benefit was derived from

the treatment, as the animal is now in first-class condition and milking well. It is worth noting that each of the cows tied up next to her in the byre reacted to tuberculin.

CASE III.—Roan shorthorn heifer, two years old; had been served, but had proved barren.

During October 1921 this animal was treated for enlarged submaxillary glands which were discharging pus without benefit, and slaughter was advised, but this procedure was not carried out. On May 20, 1923, the swellings around the head had increased to such an extent to give the appearance as though the animal had a collar on. Pus was discharging from several sinuses, the prescapular glands on both sides were swollen, and the right one discharging pus; the animal was feeding well but in very poor condition.

Smears of pus were examined for acid-fast bacilli with negative results; a small bacillus which stained with methylene blue was present in large numbers. She gave a marked reaction to the ophthalmic tuberculin test.

Eight c.c. was injected; no reaction.

May 23rd.—16 c.c. injected; marked increase in the discharge of pus next day.

May 31st.—Discharge less; 8 c.c. injected.

June 4th.—10 c.c. injected; no reaction.

June 11th.—Swellings less; 10 c.c. injected; iodides now given for fourteen days.

June 25th.—General condition improving; 10 c.c. injected; no reaction.

June 29th.—18 c.c. injected; no reaction.

July 2nd.—16 c.c. injected; no reaction.

July 16th.—16 c.c. injected; no reaction.

There is now only slight discharge of pus from two sinuses, her general condition has improved, the induration considerably less, the angles of the jaws being visible.

July 23rd.—20 c.c. of solution injected.

July 30th.—20 c.c. of solution injected.

August 27th.—25 c.c. of solution injected.

September 19th.—Lesion appears to have again become active, the swellings have become larger, pus being discharged freely from several sinuses. No further treatment was carried out.

October 8th.—She was destroyed. I was unable to be present at the post-mortem examination. The post-mortem was reported to me by Mr. James Dodd, Meat Inspector at the Reading Abattoirs, as follows:—

Tuberculosis was present in all the abdominal organs. The lungs

showed tubercular pleurisy, but no macroscopical lesion was found in the lung tissue, all lymphatic glands were found to be affected with the exception of iliac, precrural, and supramammary.

The two following cases were treated similarly to the preceding ones :—

Case IV.—A white shorthorn steer, eighteen months old, in very poor condition; the submaxillary and laryngeal lymphatic glands were all very much enlarged; there was difficulty in breathing and swallowing; this condition had been in existence for several weeks. He reacted to the ophthalmic tuberculin test.

Treatment was carried out from February 21, 1924, to April 13, 1924, injections being given every five or six days in gradually increasing doses, starting with 2 c.c. and increasing to 10 c.c.

During treatment the swelling of the glands became less, breathing and swallowing being much better; at the same time he got very much weaker, and was destroyed April 20, 1924.

Case V.—A red shorthorn cow, about four years old, with intense diarrhœa and wasting; she also had consolidated patches in both lungs; gave a reaction to the ophthalmic tuberculin test.

Treatment was commenced on February 21, 1924, and carried on every five to six days until April 1, 1924, with gradually increasing doses, starting with 1 c.c., and having 8 c.c. March 25, 1924.

On account of extreme emaciation and weakness she was destroyed on April 1, 1924.

It is very doubtful if the treatment gave any relief at all.

Case VI.—A black, castrated male cat, aged, in very fair condition, had two chronic ulcers on the back near to the root of the tail, which had been in existence for some time, the older one for some months; there was also a small hard swelling about the size of a large horse bean, denuded of hair, and having a reddened surface; eventually the skin over this sloughed, leaving a third ulcer similar to the other two. Scrapings from these were examined for acid-fast bacilli with negative results; a few giant cells were found in the scraping from the most recent one; no enlargement of the lymphatic glands could be found, and he showed no signs of lung trouble. Gave a distinct reaction to ophthalmic tuberculin, and also to the first injection of morrhuate, there being marked reddening of the skin about the size of a shilling-piece at the seat of injection, which remained for two days.

Two injections of 2 c.c. of morrhuate were given at an interval of six days; six days after the last injection all three ulcers appeared to be healing, but unfortunately the owner ordered him to be destroyed and would not allow a post-mortem examination.

CONCLUSIONS.

It is hardly right, perhaps, to try to draw conclusions from the treatment of so few cases, but the following points seem to be clearly demonstrated :—

(*a*) Tuberculous animals will react to hypodermic injections of sodium morrhuate solution, the reaction being most marked when phthisis is present and large doses are used, e.g. the first injection given to Case I.

With the doses used in these cases there was always a slight local reaction at the seat of injection, which persisted for a few days.

In Cases II and III there was a marked local reaction in the enlarged glands after the first few injections, shown by an increased discharge of pus from the sinuses, which appeared to have a beneficial effect upon the lesions, as afterwards the discharge and the enlargements became less.

It is worth noting that Case III showed no general reaction when given 25 c.c. of the solution twenty-eight days after the last injection, and on post-mortem examination the lung substance showed no macroscopic lesion.

(*b*) Case I certainly gained a tolerance for the drug, as after the first injection she never showed any general reaction.

(*c*) From the experience gained in treating these cases one would form an opinion that, given suitable cases to deal with, the treatment is well worth carrying out. Case I certainly improved in condition ; Case II appears to date to have been cured.

Cases III, IV and V were very advanced and old-standing cases, and if treatment had not been adopted would probably have died earlier.

(*d*) Owing to the length of time necessary for treatment and the incidental expense, it is only in exceptional cases that one could recommend it.

It was very unfortunate that Case VI had to be destroyed.

Clinical Articles.

SUPPURATIVE HEPATITIS IN A HORSE.

BY MAJOR G. WILLIAMSON, R.A.V.C.,
Remount Depot, Ahmednagar, India.

A FIVE-YEAR-OLD riding-horse lately imported into India was sent into hospital on July 3, 1923, with symptoms of colic. In hospital, except for frequent attempts at micturition, there were no symptoms shown. The case was finally diagnosed as nephritis and cystitis and treated accordingly. In two weeks the symptoms passed off, and

the horse was returned to its paddock. On November 12, 1923, as he had fallen off very much in condition, he was brought into the stables for special attention. For the first two days he appeared to be in normal health, although the mucous membranes were deeply jaundiced and no definite reason for his emaciated condition could be discovered. More by way of experiment than for any other reason, gastric lavage was carried out with a solution of common salt (in two gallons of water) to which had been added two drams formaline. On the third day a temperature of 102·5° F. was recorded, and this rose to 103·5° F. on the fifth day, when half a dram of quinine hydrobromide was given intravenously. The temperature then dropped to normal and remained thus. His general condition became progressively worse.

On the 21st of November, when examined *per rectum*, the enlarged and dense liver could be felt with the greatest ease extending about half-way down the abdominal floor. Pain was evinced on manipulation. The left kidney was also felt to be much enlarged, but the right one appeared to be normal. The animal died during the night.

Post-mortem Examination.—The abdominal floor was laid back from the sternum towards the pelvis by an incision down each side on a line formed by the free ends of the ribs and carried up to the loin.

The central lobe of the liver was found to fully occupy the angle opened out at the sternum and to extend backwards half the length of the abdomen. It was accidentally punctured while making the first incision and a copious flow of pus followed.

During the removal of the intestines the inflammatory condition of the gastro-hepatic and great omentum was very evident. The stomach was closely adherent to the left lobe of the liver, which in its turn adhered to the diaphragm. The three were removed together. On the internal surface of the stomach were three punctiform apertures leading into what were apparently habronemic tumours. *Habronema magastoma* were found in the pus-like contents of two of the tumours. The third, in which no parasites were found, was formed by a cavity between the muscular and serous coats of the stomach, and contained about two ounces of light yellow coloured pus exactly to that contained in the other tumours. It communicated by a narrow sinus with an abscess lying in the substance of the liver. This hepatic abscess was four or five times as large as the gastric one, and contained, besides pus, three pieces of what looked like necrotic liver tissue. Between the diaphragm and the liver was another abscess. The whole of the central and left lobe of the liver was deeply congested, very hard, and studded with pustules, while the right

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lobe showed none of these lesions, but gave the appearance of having undergone fatty degeneration. Most of the abdominal lymphatics contained small abscesses. The left kidney was congested and enlarged, while the pelvis of each kidney contained pus. The bladder appeared to be normal, as were also the spleen, heart, lungs, and other organs. No foreign body was discovered in spite of a careful search, and the condition is thought to have been due primarily to the activities of *Habronema* and later to invasion by pyæmic organisms.

The Director, Imperial Bacteriological Laboratory, Muktesar, thus reports on the liver tissue and pus examined by him :—

Cultural examination of the pus from the hepatic abscess revealed streptococci in pure culture.

Histological examination of the liver disclosed intense hæmorrhagic hepatitis, with areas of necrosis apparently produced by an invasion with streptococci. There were centres undergoing abscess formation and containing large masses of polynuclear leucocytes. The distension of the capillaries and venous stasis in the surrounding tissue was intense.

SOME CASES OF YEW POISONING.

By ALFRED GLOVER, M.R.C.V.S.,
Godstone.

1. Two very nice carriage horses were taken in on grazing terms by a farmer. He placed them in a park adjoining which there was an old garden from which the branches of an old English yew overhung the park. One morning both were found dead under the yew-tree, and post-mortem demonstrated yew leaves and twigs in the stomach.

The farmer had to pay the value of the animals.

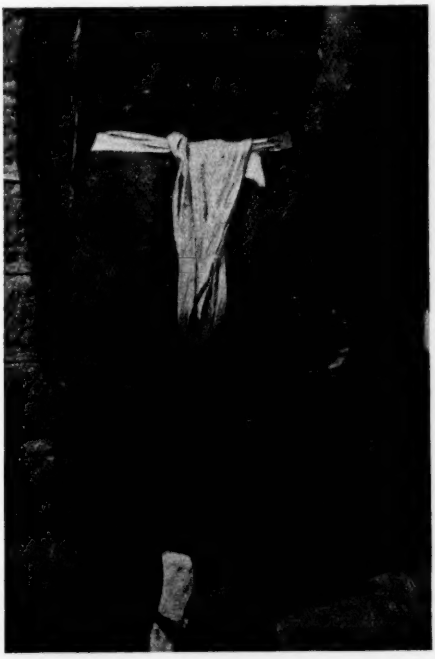
2. A short time ago some 44 cattle got through an open gate into an old garden containing several yew-trees and all ate freely. All were taken very ill, and two were dead on my arrival. The remainder were treated with linseed oil and purgatives and eventually recovered, but not until we had had a very great deal of trouble and anxiety.

3. A client, who had recently bought 50 Argentine horses, sent for me one day to say that two of his arrivals had died suddenly and the others were all ill. When I got there I found six dead, and upon looking round the field found a number of yew-trees whose lower branches gave ample evidence of having been nibbled at. Post-mortem revealed a quantity of yew leaves and twigs in the stomach.

TRANSMISSION OF CAMEL MANGE TO MAN.

By H. E. CROSS, M.R.C.V.S., D.V.H., A.Sc.,
Camel Specialist to the Government of India, Sohawal.

THE photograph below illustrates well the appearance which results from the transmission of mange from the camel to man. It is by



no means a rare affection amongst attendants on the camel, and the photograph is that of one of my camelmen.

It causes great irritation, and they not infrequently become covered with suppurating sores.

The treatment which gives good results consists of a daily bath and the application of Taramira oil or sulphur ointment, and finally boracic ointment to the suppurating areas.

GANGRENE OF THE CORONARY REGION.

By LIEUT.-COLONEL C. W. RAINEY, C.B.E., M.R.C.V.S.,
London.

GRAVE infection of treads and other wounds on the anterior aspect of the pastern and coronet leading to cellulitis and gangrene is remarkably common in the east end of London.

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In the writer's experience, where whole-time attendants are not available for nursing in these conditions, recovery cannot be expected.

Continuous fomentations with hot hypertonic salt or antiseptic solution, alternated with hot antiseptic plasters in a kaolin and glycerine basis, or the repeated applications of generous pads of tow or gauze soaked in a solution of a reliable antiseptic, are necessary in the acute stages of the affection.

The hot fomentation is commonly applied by means of a wooden tub containing enough water to cover the fetlock, and eight hours daily is not too long for this purpose.

The addition of half a pound of common salt to each gallon of water provides a hypertonic saline solution.

The difficulty of treatment does not end with the separation of the slough, which is generally effected by the above-described means.

The large swelling which occurs is only limited, in its extension downwards, by the hoof, and there is no doubt that the intense pain which is an invariable symptom is due to a considerable extent to expansion of the tissues within the upper part of the wall of the hoof. An effort is made in all cases to counteract this by rasping thin the wall from the coronet downwards for an inch and a half. The hot foot bath also helps by softening the horn.

There is usually a tendency for ulceration to extend downwards from the top of the hoof between the horn and sensitive tissues. The vitality of the latter tissues in proximity to the gangrenous lesion is lowered by the pressure and interference with circulation resulting from inflammatory processes in dense tissues, so that bacterial invasion from the lesion is inevitable. Consequently, care is taken to ensure that all under-run horn is removed as often as need arises until the invasion is checked.

With constant attention and the assiduous practice of these measures, recovery as a rule may be expected, but it is often long delayed.

If there is reason to know that the case will be neglected for reasons that are sometimes beyond the control of the owner, it is better to advise immediate destruction in order, on the one hand, to save the animal from unnecessary pain, and, on the other, to escape the discredit that follows unsuccessful surgery.

It seems probable that the infection takes place chiefly in the stable. The cases as a rule occur in animals kept by small owners in filthy surroundings. They are rarely found in animals occupying stables that can be and are kept in a sanitary condition.

A similar infection of the exposed tissues in cases of severe sand-crack is also common, and similar measures are taken to deal with

them in addition to the complete removal of the horn over and around the crack.

Treatment for at least two months is required to effect a cure in these cases of infected sandcrack, which are the most difficult of all, and will certainly prove fatal if there is the least neglect.

It is well to prolong the treatment by hot fomentation for a longer period than would appear necessary, because otherwise the reappearance of severe pain is a common occurrence due in part, no doubt, to arrest in the process of phagocytosis, and a consequent recrudescence of bacterial activity. The drying and consequent hardening of the horn may be a contributory cause.

When it is certain that infection is overcome, simple wound treatment may be practised, but it is advisable, whatever else is done, to keep the hoof in proximity to the wound soft by means of ointments or a mixture of ointment and Stockholm tar. This is advisable because, as already suggested, the prolonged hot fomentation tends, on its cessation, to be the cause of a subsequent abnormal hardness of the horn.

There may be better forms of treatment than those which have been mentioned, but so long as satisfactory results are obtained one is reluctant to make experiments in these dangerously acute infections.

SOLANIN POISONING.

By WALTER GARDNER, M.R.C.V.S.,
Maybole.

One afternoon, about 3 p.m., I was called to a pedigree two-year-old Clydesdale filly. Found her reeling and staggering with stiffened gait on the roadside leading from the paddock to the farmyard, in a state of profuse perspiration, with stertorous breathing, protrusion of the membrana nictitans and trismus complete. Filly dying, and succumbed in thirty minutes, only three hours since observed that anything was amiss with her.

Previous History.—Never was lame since a foal at weaning time When taken ill she was one of seven Clydesdales grazing on rape, topped dressed with farmyard manure after early potato crop. Nothing was seen amiss with the others whose ages ranged from eight months to rising four-year-olds, when examined after death of this subject.

I returned home, having formed the opinion, reservedly, that I had had a case of acute tetanus without the presence of a wound, for though a diligent search was made not the slightest indication of a wound could be detected.

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The following morning, about 8 a.m., my attendance was urgently requested at the same farm to the effect "that a yearling filly is down this morning showing same symptoms as the case yesterday." I left immediately, and on arrival I learned the subject was discovered in the paddock in a recumbent position—owner had her removed indoors to a loose box upon a rick-lifter. I found her showing all the identical symptoms evidenced in the case of the previous night. Trismus not so complete, but hind limbs stiffened, muscles of hind quarters hardened and rigid, tail carried straight out, marked increased reflex irritability, and spasms of the muscles. Also of membrana nictitans at the slightest movement in the loose box.

In prosecuting further inquiries for the causation, I was informed the seven horses at grazing were getting small rations of bruised corn daily for many weeks past. But the subjects of this case were two of three that had broken over the fence the day before into the adjoining field and had helped themselves to a liberal supply of potatoes, which had been discarded as diseased by the workers at the potato-pits. These potatoes would be badly frosted with the recent weather.

The mystery surrounding the cause of the ailment now seemed solved, and the third filly that broke into the potato field was given a moderate dose of linseed oil and all removed to a place of safety, and there has been no further developments.

In the case of the second filly—though prognosis was unfavourable—she was given a large dose of linseed oil. I visited her again at 6 p.m. same night and found her much worse, sweating more profusely and struggling violently. Filly died in thirteen hours from onset of showing evidence of ailment.

Post-mortem appearances revealed nothing noteworthy.

The phenomena observed in these subjects are unique, in my experience, as I am not aware that solanin produces clonic spasm of muscle. I know potatoes in excess to horses and pigs are very fatal and cause great disturbance of digestive tract and muscular twitchings, etc., but perhaps when frosted they produce other symptoms.

A SUMMARY OF SIXTY CASES OF MILK FEVER.

By W. E. ARMSTRONG, B.V.Sc., M.R.C.V.S., D.V.H.,

Wigton, Cumberland.

THE following is a summary of sixty cases of milk fever treated up to the last of December 1923.

The distribution by months was :—

January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
3	5	5	2	5	3	7	11	9	5	5	Nil	60

There were three heifers and fifty-seven cows in the series.

Symptoms of the disease were noticed following parturition in terms of hours or days as follows :—

Hours.	2	3	4	6	8	12	Days.	1	1½	2	3	4	5	7	10	14	21	Total.
No. ..	1	1	1	4	2	11	No...	19	2	2	4	5	1	2	1	1	2	59

One cow went down in labour.

The animals were in the standing position following inflation in :—

Hours.	4	5	6	8	9	12	18	24	36	72	Total.
No. ..	1	1	17	5	5	21*	2	5	2†	1‡	60

* One was reinflated at the end of eight hours and rose four hours afterwards.

† These two had to be lifted with slings at thirty-six hours on account of prexisting stifle disease of which I was not aware previously. Both were chewing their cud at the end of the twelfth hour.

‡ Had a relapse, and was reinflated after thirty-six hours, making the total number of hours recumbent to seventy-two.

There were seven cases of abortion with retained placentæ, and sixteen cases of retained placentæ in full-term pregnancies. By retention is meant placentæ which are retained and showing little or no tendency to spontaneous delivery twelve hours after inflation.

PHARYNGEAL ABSCESS IN CATTLE.

By R. HUDSON, F.R.C.V.S.,
Retford.

PHARYNGEAL abscess is usually situated in the upper wall of the pharynx ; I have heard of it in the side, but never met with a case which I could have operated on internally. Abscesses in the parotid region generally point and burst outwardly.

Probably the origin is in one of the superior pharyngeal lymphatic glands which lie on each side of the roof of the pharynx, but if so,

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one would think that the abscess would assume a centro-lateral position, whereas it feels exactly central.

It is most commonly met with in animals between two and three years old, and oftener in females than males. I have met with it in calves a few months old, when it is probably contagious.

In one instance in which a number of calves about three to four months old were together in one place they all became affected. The mouth was so small that I could not examine properly, but by forcing my hand in as far as possible I was able in two of them to feel the enlargement due to abscess formation. In another instance during the last winter I saw the condition in a lot of seven or eight calves, most of which developed abscesses in the pharynx.

The cause I do not know, but probably it is some pus-forming organism. It may be specific. It may in some be tuberculous, but most of the cases smell badly when the abscess is broken, and do not show any secondary lesions, so that I have come to the conclusion that the tuberculous lesions are the less common.

The symptoms shown are difficulty in breathing and swallowing, poking of the nose, and sometimes a fullness of the parotid and sub-maxillary region. Snoring mostly increases rather rapidly until the abscess bursts or is evacuated, or, where the contents are dry and cheesy, it may come on very gradually and persist for many months.

Many cases burst naturally, the discharge of thick yellow pus escaping down the nostrils and some being swallowed, but in others operative measures are necessary to give relief.

The abscess is easily diagnosed by holding the tongue well out and passing in the hand. It is usually bulging into the pharynx, and occupying so much of the space that one wonders how they manage to swallow food or breathe.

When examining or operating it is well to perform quickly, as respiration is cut off by the hand and the animal soon becomes restless, often pulling the head away and causing the hand to be badly scratched. I usually operate without the mouth gag, finding that they resent the gag and struggle more, though some cases need the gag and may even require to be cast.

If a strong man holds the nose and horn the wall of the abscess may in many cases be ruptured with the finger, reaching as far back as possible and tearing the wall forward to make a large hole, so assuring good drainage.

For abscesses with hard walls which I cannot break through I have made a knife with a long handle and concealed blade. When using it, I prefer to tie the animal to a post, often over the lower

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door of the stable, with a non-slip-up noose round the neck. If a halter is used it tends to pull on the lower jaw and close the mouth. The knife is passed along until the abscess is reached and the blade forced into it. Drawing on the blade is rather risky, so I prefer, having made a hole, to withdraw the knife and enlarge the hole with the finger. Casting the animal may be attended with danger from suffocation in some cases. The animal may struggle during casting, and be unable to inspire sufficiently, or it may resent the gag and the hand.

I recently met with such a case, and had to open the trachea to save its life.

Sometimes cases are met with in which the contents of the abscess are so dry and gritty that evacuation is very difficult, in others induration may be so advanced as to present nothing but hard fibrous tissue ; in the latter nothing can be done in the way of an operation.

After-treatment consists in dosing with weak antiseptic solutions which may be swallowed.

PREGNANT COWS IN ŒSTRUM.

By W. DAVISON, B.S.A.,

Live Stock Expert in Mysore, Bangalore.

The question raised by Mr. Morgan, M.R.C.V.S., on this subject in a former issue of the Veterinary Journal is of interest.

I have encountered a number of cows of the Sind breed which have taken the bull while pregnant. One animal in particular was a regular performer, and was bred on six occasions, calving to the second covering. In some cases, cows, which have been bred, show all the signs of œstrum about sixty days afterwards, are again bred, and calve to the first mating. In one case, a half-bred Ayrshire cow showed signs of œstrum seven months after being bred. She was bred again, for having a big middle at all times the man in charge was unable to satisfy himself that the cow was in calf, which she proved to be by calving two months afterwards.

This tendency is a very disconcerting thing, and complicates the management of a herd to a considerable extent and in various ways, as can easily be imagined. As a single example, before I became aware of this idiosyncrasy, several good cows were sold as non-breeders, as the herd had been newly formed and the previous history of the cattle was unknown in most cases. After the sale of these cattle they were lost sight of, but one often wonders whether an unnecessary sacrifice was made.

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HÆMORRHAGE FROM THE UTERUS IN A COW.

By S. J. MOTTON, F.R.C.V.S.,
Penzance.

A WEEK before the date upon which she was due to calve for the fourth time a Guernsey cow was noticed to be showing slight pains, which the attendant considered were calving pains, and blood ran freely from her vulva. The pain and hæmorrhage ceased almost simultaneously about an hour after they were first noticed.

Nothing further was observed until the day after her time for calving, when severe calving pains appeared, and blood again ran freely from the vulva. I saw the cow about two hours after the commencement of the second attack. On arrival I was told that the pain was already less, and the hæmorrhage was now slight. Exploration of the vagina revealed a large quantity of blood-clot, which occluded the passage. This was removed until the os uteri was reached. The os was fully dilated, and more clot was removed from it and from the uterus until the calf was reached. The total amount of clot removed about half-filled an ordinary stable bucket. The amniotic fluid had already escaped, and the calf, whose head had deviated to the right flank of the cow, was easily delivered alive. More clot and some fluid followed the calf. Three hours later the fœtal membranes were expelled. Forty-eight hours later the uterus was irrigated with normal saline solution, and recovery was uneventful.

DILATATION OF THE CERVICAL CANAL IN THE NON-PREGNANT COW AND HEIFER.

By J. F. D. TUTT, M.R.C.V.S., F.L.S., F.Z.S.,
Winchester.

THE condition about to be described is a very frequent one in cattle that constantly come into œstrum and will not become pregnant.

In some instances there is a history of abortion, retained placenta or metritis at the last calving, and the condition has been observed very frequently after the injection of anti-abortion vaccine. In other instances there is no history of any abnormality at the last calving.

Examination of the os uteri will reveal closure, and there may be growths (cauliflower or warty) occluding the entrance, or it may be uncomplicated, being simply a closure.

Normally the os should admit the index finger at œstrum, except in heifers when a little force may be necessary.

Operation.—The operation is a simple one, although in bad cases

it may have to be repeated. It is advisable, but not necessary, to well syringe out the vagina with some warm antiseptic solution, such as chinosol (1–500), fecto, or weak lugol. The hand is then introduced and the fluid agitated and allowed to escape. The vagina is then swabbed out with sterilised cotton wool.

The hand is again introduced, and the index finger inserted into the os, and pushed gently forward with a rotary movement. It is astonishing what progress, with a little patience, can be made with the finger only. When it is introduced as far as possible and opposition is (or not) encountered, the os is seized with uterine forceps and drawn towards the vulva, as far as possible, with gentle traction. An assistant holds the forceps securely, and the operator then inserts his left hand, and holds the cervix firmly in the palm of the left hand, and with the right hand carefully introduces a sound, or preferably the nickel-plated bougie (Arnold & Sons) used for dilating the os in mares prior to inseminating. This is gradually introduced and worked forwards in a rotary manner, as with the finger, until it slides slowly forward with no opposition, when it is at once withdrawn and the dilator inserted. The most satisfactory dilator is one with straight blades as made by Huish & Co. For several years I used one with curved blades made by Hauptner, but it is awkward to use and sometimes difficult to insert owing to the curvature of the blades. The blades of the dilator are gradually opened, and this is repeated three or four times, when it is withdrawn and the cow is ready for service.

It is not necessary, in my opinion, to irrigate the uterus. Examination of ovaries and broad ligaments should, of course, be made prior to dilation, and any cysts present in the ovaries ruptured by squeezing or massage.

In most cases of sterility, closure of the cervix is a fairly constant feature, and dilation as described has been attended with very satisfactory results.

COCCIDIOSIS, STRONGYLOSIS, AND JOHNES DISEASE IN THE GOAT.

By G. SIMONS, M.R.C.V.S.,
Lancaster.

THE article by A. W. N. Pillers in the VETERINARY JOURNAL for April this year prompts me to record a few personal observations on diseases of goats, in which the outstanding symptoms are progressive wasting and anæmia, accompanied in the latter stages by an irregular condition of the bowels and finally diarrhœa. It is presumed that,

so far as this country is concerned, the chief diseases to be considered in this respect are coccidiosis, strongylosis and Johnes disease.

The whole of my cases have occurred in animals over two years of age, with one exception, which was an animal nine months old, showing clinical symptoms, and on death, post-mortem appearances of Johnes disease. In this case my diagnosis was not confirmed by the pathologist who examined scrapings of the bowel.

In arriving at a diagnosis the age and history of the affected animal together with that of the in-contacts appears to be of first importance. Since both coccidiosis and strongylosis cause considerably more serious symptoms in young animals than in adults, neither is likely to be the cause of progressive wasting in an adult goat from a herd where the kids are apparently healthy. Further, they both set up a train of acute symptoms which speedily terminate the case fatally.

On the contrary, in Johnes disease the progressive wasting, of adult goats, which has come under my notice is slow and insidious in onset, producing at first little or no constitutional disturbance. The animal licks itself and cuds as if otherwise in perfect health, and so continues for weeks or even months (in one case under my notice for two years) before terminating in death.

Whilst in coccidiosis and strongylosis acute diarrhœa is the foremost symptom, in my cases of Johnes disease diarrhœa has only commenced a short time previous to death.

Further, it must be remembered that coccidiosis and strongylosis invariably occur at pasture and usually in damp, marshy ground. In two cases which on post-mortem examination showed typical lesions of Johnes disease with the presence of acid-alcohol fast bacilli in characteristic clumps, there were also a few strongyles in the fourth stomach. This fact, together with having observed strongyles passed by apparently healthy animals, leads me to conclude that a slight infestation with strongyle worms will not cause death or even severe clinical symptoms in adult animals. This, however, is not the case in animals under one year old. My observations have therefore led me to believe that the majority of cases of chronic progressive wasting, accompanied by anæmia and weakness in adult goats, whose fæces do not contain coccidia or worms or their eggs in large numbers, must be subject to Johnes disease.

Treatment.—Nothing I have so far tried has had any permanent effect on the course of Johnes disease. Napthalene in small, medium and full doses was tried in several cases without success.

The iron and acid mixture advised by Sir John MacFadyean appeared useful in the early stages but gave no lasting cure. In concluding this note I wish to acknowledge the valuable help and advice given me by Sir John McFadyean.

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CALCULUS IN THE KIDNEY.

By W. R. DAVIS, M.R.C.V.S.,
Enfield.

A PEDIGREE bulldog three years old had been attended by me at intervals during the past six months. The dog had recurrent attacks in which the symptoms pointed to gastro-enteric trouble, these being relieved by a mixture containing bismuth pot. bicarb. and chloric ether, so that I only occasionally was called to the patient, the mixture being always kept handy and given when required. The symptoms observed during an attack were : absolute inappetence, occasional vomiting, passing (with considerable straining) of small quantities of dark thin fæces. Urine was said to be normal, temperature about 102°, the pulse was irregular and increased in frequency. I was unable to auscultate the chest as the dog was extremely difficult to handle. The illness would last a few days, and then all would be in order again, the dog eating his three-quarters of a pound of steak every day ; but even when apparently well, if the dog ran barking down the garden, as he often did when people passed, he would often fall over on his side in a swoon.

On Thursday, May 1st, the owner telephoned for a bottle of the medicine, which was sent. On Saturday the 10th he phoned to say that the dog had had an attack, was being fed with Benger's food four times a day, that this was retained, but that there was rather violent straining at times.

On Sunday morning he phoned to say the dog was dead, and requested me to make a post-mortem. On opening the abdomen the bladder appeared to be empty, though very large; its surface showed numerous hæmorrhagic lines. On attempting to remove the bladder a large cyst of the prostrate gland was opened and a quantity of yellowish fluid escaped. On opening the bladder it was found to contain a couple of ounces of a brown material of the consistence of thin porridge, the whole of the mucous membrane was covered with a diphtheritic membrane, and at one place there was commencing necrosis. The left kidney was normal in size, very firm, and its surface showed projections ; its pelvis was the seat of a diphtheritic process. The right kidney was more than twice the normal size and of extreme hardness. In its pelvis was the enclosed calculus (see figure, actual size), and there was here, too, diphtheritic pyelitis.

The other organs appeared to be normal except that the pancreas was extremely dark, almost purple in colour. I saw nothing in the heart to account for the fainting fits.

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It seems extraordinary that the dog should have been active and lively, showing no sign of stiffness in his gait, and that he should have eaten his daily ration of twelve ounces of steak up to about a week before death.

RUPTURE OF THE DIAPHRAGM.

By Major F. CHAMBERS, O.B.E., F.R.C.V.S.,
Wolverhampton.

The subject was a mongrel terrier, six months old, brought to me with the history that he had been run over by a motor-car six weeks previously. The respirations were laboured, with a distinct filling out of the flank at each inspiration. Temperature was normal. When the dog sat on his haunches with the forelegs straight the breathing was not so difficult. Having seen a case of ruptured diaphragm some months previously (the case was reported in the *Veterinary Record*) I was pretty sure of my diagnosis, and advised the owner to have the animal destroyed.

Post-mortem.—The rupture extended the full length of the diaphragm on the left side. A portion of the liver and some of the intestines had found their way into the chest cavity. There was a large quantity of bloodstained exudate present in the "combined" pleuro-abdominal cavity. The incarcerated portion of the liver was much congested. There were no adhesions, and the edges of the rupture in the diaphragm had become quite smooth and level.

A CASE OF ENTERECTOMY FOR INTUSSUSCEPTION.

By JOHN FACER, M.R.C.V.S., D.V.S.M. (Vict.),
Southampton.

Subject.—A black mongrel dog, aged about eighteen months, the size of an Irish terrier. Admitted to infirmary on November 19, 1923. Owner stated that on taking the dog for a walk, it would lie down in the road and roll over on its back as if in pain. Showed no inclination for exercise, but preferred to return home. Animal was kept under observation. Loss of condition was rapid, although the appetite remained good. Alternate constipation and diarrhœa. After a few days the most marked symptom was stretching when brought out on a lead. No sickness or vomiting.

An exploratory laparotomy was performed, and the small bowel found to be invaginated for a distance of about five inches. This was reduced by gentle traction until the last inch was reached. Adhesions had formed, and further traction, though gentle, caused the bowel to

split in a longitudinal direction. The thickened and split portion was then excised together with a triangular piece of the mesentery, and the ends of the bowel sutured together with Lembert's sutures. The lumen of the anterior portion was smaller than the lumen of the posterior, and it was necessary to " pucker " the latter somewhat, care being taken that the serous coats were in apposition.

Three days after, the patient showed symptoms of the catarrhal form of acute distemper. It was kept near a fire in a warm room and dosed with cod liver oil frequently; being also given Thyroid Extract and Colloidal Iodine. Diet consisted of cod liver oil, milk and eggs and gravy in which meat had been boiled. At least half a pint of cod liver oil was given in the course of each day. General improvement began about ten days after, and the dog was discharged apparently fit and well on December 31, 1923.

Later the dog developed a hernia at the site of the incision. The skin over the rupture was moist. Being readmitted to the infirmary on May 2, 1924, the abdominal muscles were brought into apposition again. Discharged on May 21, 1924, his health is now described by the owner as " boisterous."

One remarkable fact about this case is the entire absence of vomiting. Another point, the splendid recovery from distemper of a canine wreck. I am indebted to a correspondent, whose name I do not recall, in the *Veterinary Record* for the " tip " *re* the cod liver oil.

HERMAPHRODITISM IN THE EQUINE, BOVINE, AND CANINE.

By H. C. GANGULY,
Bengal Civil Veterinary Service, Veterinary College, Calcutta.

This anomaly in the development of animal structures is of rather rare occurrence in the veterinary world. The naked-eye evidence of the co-existence of the male and female generative organs being present in an individual constitutes the condition known as Hermaphroditism. For deciding the gender of the subject the determining factors are the sex of the glands (testes or ovaries) and that of the other organs which chiefly functionate. " Klebb " classifies hermaphrodites into two varieties, " True and False."

In this College three cases of hermaphrodites in three different species were observed during the last few years.

(1) The condition first observed was in a locally bred bull-terrier, property of an Anglo-Indian, which was admitted into the College Canine Ward for treatment of sarcoma of the vagina.

On examination no such growth was discoverable, but a red,

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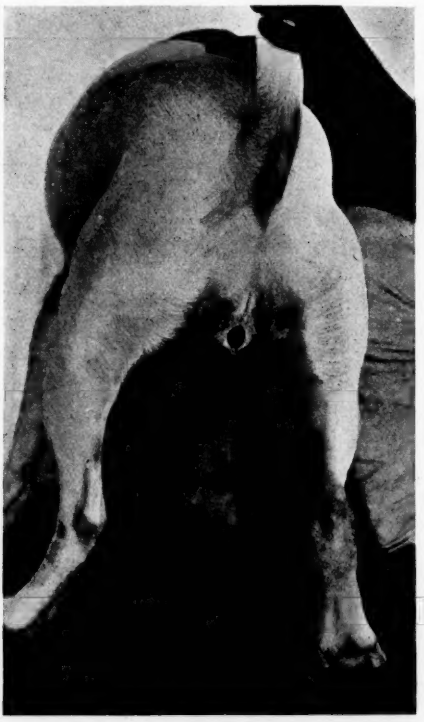
hard, and blunt protuberance, about $2\frac{1}{2}$ inches long, with quite a free end towards the vulva, was found, and appeared to originate from the anterior end of the genital canal. Externally, as will be seen in the illustration, it was only just visible through the vulva at the upper commissure. It was fairly hard, and seemed to contain a bone with a longitudinal narrow groove (urethra) on its superior surface apparently in use for the escape of urine. The organ—obviously a penis—responded to digital stimulation and became



congested and erected, spurts of urine being ejected at intervals. Exploration revealed that the genital passage was merely a closed sac, 3 inches deep or wide, and from the end of which the finger-like red projection had developed. The urine was passed squatting through the groove at the upper surface of the protuberance in a thin stream as in dogs. The scrotum was absent, its place being occupied by the mammary gland with well-developed teats, and the animal had, it appeared, more female than male proclivities. As

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no treatment seemed necessary, she was ultimately returned to the owner.

This very bull-terrier about a year and a half later, but after she had changed ownership, was again sent to the clinique for the same complaint, and was returned with an explanatory report of the true condition.

(2) Since the above case came under notice two more hermaphrodites were lately observed: one, a waler horse (?), with a small penis protruding from the perineal region in the usual position of the vagina in a mare, and the other a new-born calf without either an anal or genital aperture in its usual position.

The waler, a draught animal, belonged to a horse-dealer in Calcutta, and was found harnessed to a cart that was driven one day for business purposes, and not as a patient, to the College. This animal had mammary glands in the usual situation, and she was noticed to pass urine through the rudimentary penis in the perineal region, assuming the usual attitude of a mare for that purpose.

(3) The third case, a two-day-old new-born country calf, was brought to the College out-door clinique in a greatly prostrated condition, to be operated upon for "Atresia Ani." She was not only in want of an anal opening, but was noticed to be also without any regular slit (fissura magna) between the two vulvæ excepting an almost invisible pin-hole puncture at the lower angle of the inferior commissure, through which the urine was incessantly trickling, soiling and excoriating the thighs and limbs. There was no scrotum, but a fold of loose skin was observed hanging from the under surface of the belly in the usual situation of the sheath as in males.

A rectal opening was made in the usual way, and the calf was considerably relieved by the removal of a large quantity of meconium from the rectum which was present in the normal position; but after operating on the rectum no immediate attempt to enlarge the orifice of the vagina was made, as she was somewhat exhausted, and no urgent necessity existed for urinary relief.

The calf was subsequently taken away by the owner and was brought again, after a fortnight, to display progress of the case. She was found to have recovered from the anal operation, and the small opening, through which the urine was already passing, was noticed to have become slightly dilated. Consequently, at the request of the owner, and also as the calf appeared healthy and well, so far as defecation and urination were concerned, further surgical intervention was not attempted.

Photographs of the last two cases were, unfortunately, not taken.

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TOXIC EFFECTS OF CHLORETONE IN CATS.

By W. HAMILTON KIRK, M.R.C.V.S.,
London.

The makers of this valuable salt—chloretone—Messrs. Parke, Davis & Co., rather vaguely assert in their literature that cats have an idosyncrasy against it. Upon inquiry, I failed to elicit what this bad action was, so decided recently to utilise every opportunity to personally observe its effect. A cat suffering from mange was brought to me for destruction, and received a 5-grain capsule of chloretone. This produced sleep in about an hour, the animal remaining still and asleep for nineteen hours, when it was then found dead. A second cat, also brought for destruction, received 2½ grains, and died after a period of fourteen hours' coma. These two cats were fully grown, but the next subject was about four or five months old, and suffering from pneumonia. Two grains of chloretone were administered which appeared to exert an immediate effect, as the cat's head dropped down so that the nose rested upon the bedding; respiration increased in rapidity, and after awhile the animal seemed to lose all balance, rolling from side to side in its sitting posture. As in the other cases, no attempt was made to stand, neither was any food partaken of. A state of stupor prevailed for nearly twenty-four hours, when I expedited matters with an injection of prussic acid.

The fourth case was a big strong uncastrated male cat of about two years of age, no longer wanted by its owner. One grain of chloretone was given, but produced no effect. Two days later I gave 2 grains, with a similar result. It certainly slept well, but was easily aroused, and apparently normal. A lady client then took a fancy to the cat, so it was castrated and given to her.

Owing to a very busy spell, no time was afforded to make further observations, as my object in each case was really to effect a painless death. These records are therefore admittedly crude and lacking in detail. Yet the following facts may be deduced:—

1. That the largest dose is not necessarily the most lethal, as 2½ grains in one case killed quicker than 5 grains in another.
2. That the outstanding symptom produced is profound sleep.
3. That death is painlessly produced.
4. That each individual has an idiosyncrasy to dosage, and that any amount over 2 grains cannot be relied upon as safe.

I shall pursue my observations, and hope to be able to report later at greater length and in fuller detail. If and when a safe dose can be definitely decided, chloretone bids fair to prove as valuable a narcotic for cats as morphia is for dogs.

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Abstracts of Current Literature

Wirth, Dr. D.—The Pathogenesis of Stuttgart Disease.—*Wierner Tiearzt Monatschrift,* June 1924.

WIRTH has been conducting a series of investigations into the nature of this disease. The clinical symptoms he gives are great prostration, somnolence, loss of elasticity of the skin, erosions or ulcers on the mucosa of the mouth, vomiting, bloody diarrhœa or retention of fæces, oliguria or polyuria, at first fever, but soon subnormal temperature. Icterus, hæmorrhages in mucous membranes, nervous spasms, etc. Thirst and polyuria were often present as well as pain over the region of the kidneys. In the clinical picture inflammation of the kidneys was considered to be the chief feature, and consequently therapy consisted of a pure milk diet and urotropin, followed later on by salol, were given orally. Treatment by this method brought more recoveries than any hitherto used by the author.

Frei, W. and Kolb, K.—Sterility and Endokrinology—Experiment in the Cure of Sterility by Implantation of Ovarian Tissure.—*Schweizer Archiv. für Tierheilkunde,* Vol. 65, 1923.

A FOURTEEN-YEAR-OLD goat showed pronounced symptoms of senility. It was almost bald, rough, wrinkled, slack skin, atrophied muscle, sterile for three years and never in season, small, atrophic, non-secreting udder. It was implanted with the ovarian tissue from a twelve-weeks-old nanny that was slaughtered immediately before the operation. The animal received two pieces of ovarian tissue inserted intramuscularly in the croup region, so that the cut pieces of ovary and the cut surfaces of the muscular wound came in contact. Besides one piece of ovary was inserted subcutaneously and four pieces intraperitoneally. A month after the operation the left half of the udder swelled, and fourteen days later the right half. Four months later the animal came fully into season, and three days after was served and conceived. The kid born was a male one. This proves that inactive ovaries can again be rejuvenated by implantation of young and actively functioning ovaries.

Michalk, Dr. P. W.—Follicular Nodular Hyperplasia in the Dog.—*Deutsche Tierärzliche Wochenschrift,* April 21, 1923.

IN the Pathological Institute of the Berlin Veterinary School M. found 40 out of 250 dogs affected with tumour-like enlargements of the spleen. There were no real tumours, but chiefly simple hyperplasias, which always consisted of quite typical cell structure. In

no case was there inoculation metastasis from the nodules. From exact macroscopic and histological examinations it was found that these were cases of follicular nodular hyperplasia. All investigation and inquiry into the cause of these hyperplasias were negative. There seemed to be no connection between them and leukæmia or infarction.

[On May 16th this year we held a post-mortem on a fox terrier dog, whose enormously enlarged spleen weighed 1 pound 1 ounce. There was no trace of tumour formation about it, but it was uniformly nodular on section. It was owned by the secretary of a large infirmary, and was kept on the premises.—G. M.]

Williams, Professor W. L.—Abstract from a Study of Reports of Abortion Committees (Ithrea, New York State).—*North American Veterinarian*, August 1923.

A CAREFUL study of the committee reports shows :—

1. In making declarations upon certain points regarding abortion the committees have failed to either submit the data upon which their assertions were based, or to definitely refer the hearer or reader to authentic literature where the facts may be found. They do at times append a bibliographic list, but fail to indicate or suggest the value or contents of any one contribution.

2. They have failed to submit a comprehensive and economical plan for control. Their efforts in this direction have been inexact, often contradictory, and have been unsupported by the citation of accurate data.

3. They have failed to unify opinion as originally contemplated. The only appearance of unification has consisted of the repression of discussion by those thinking differently from the majority. This suppression has operated only in the two associations having the committees, and has not prevented the minority from reaching a satisfactory audience through other channels.

4. The committees are slowly and reluctantly yielding ground upon the basic doctrine which they were created to uphold. They are unavoidably recognising the fact, which the minority has all along asserted, that an unknown number of intra-uterine infections may cause the death and expulsion of the fœtus. They are compelled to admit that it is important that infections in the genitalia of cows other than the Bang germ need be controlled or eradicated prior to conception, otherwise their recommendation not to breed cows with diseased genital organs is untenable.

It is obvious to the close student that the abortion problem is not to be solved by abortion committees. The solution of this,

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the greatest problem now prominently before the veterinary profession, like any other great problem, depends upon extensive and sincere investigations. The original purpose of these committees to restrict or suppress frank and extensive discussion by those holding views in conflict with the apparent majority should be abandoned as futile and injurious. The greatest defect in the researches upon infections interfering with reproduction is the backwardness of the veterinary practitioners. They have far too largely surrendered their prerogatives to the laboratory workers, and, worse still, to the manufacturers of abortion nostrums. In so doing they have evaded a great responsibility to the breeding interests of the nation. Their observations have been too few and shallow. The data submitted by them have usually consisted of a statement of the percentage of pregnant animals known to have expelled fœtal cadavers. This is not the problem facing the breeder. He needs to know how many breeding months are required for the production of each healthy offspring, associated with preservation of the health of the dam. The breeder gains nothing if a cow drops a calf which lives but she dies from infection resident in the uterus at time of parturition. Or essentially the same knowledge may be obtained in a large herd by determining how many calves per 100 cows have been produced during a given calendar year. The clinician must learn to observe more extensively and accurately. The clinician cannot alone control abortion or solve the abortion problem. If substantial progress is to be made it must come through earnest and conscientious co-operation with the laboratory worker.

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Coccidiosis in Fowls.—*North American Veterinarian.*

BUTTERMILK has been found to be the best remedial agent for this complaint, with the exception of condensed whey. The buttermilk was more effective than hydrochloric acid, lactic acid, catechu, sulpho-carbolates, or bismuth subnitrate. Buttermilk combined with proper sanitation and care is superior to any other method of cure.

Swiss Federal Veterinary Office Observations Concerning Reinfection in Foot-and-Mouth Disease.—*Schweizer Archiv. für Tierheilkunde,* August 1923.

REINFECTIONS are classed as follows :—

1. Reinfections caused by the arrival of cured animals in cowsheds free from the disease.

2. Reinfections brought about by the arrival of healthy animals in the cowhouses of cured animals.

3. Reinfections in calves the progeny of cured cows and brought up in the sheds with their mothers. In these cases reinfection has generally only followed the arrival of fresh beasts that have incurred infection.

4. Reinfections produced by coming in contact with contaminated animals at different periods.

The time that elapses between contact with carriers of the virus and the reappearance in receptive animals of aphthous fever varies enormously.

In numerous cases the eruption takes place at the end of a few days, but it can be delayed for six months. In 286 cases the period of incubation has been less than eight months, in 192 cases it has exceeded eight months. The majority of reinfections took place from the fifth to the sixth month.

The investigations of the cantonal veterinary surgeons show that an interdiction of three months is insufficient to avoid reinfections, and that it is necessary to maintain isolation for eight months at least to avoid the majority of reinfections. The Federal Office recommends this period of isolation and also for calves born in contaminated sheds, but it recognises that its realisation presents insurmountable difficulties in practice.

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Translation

THE OATH OF PROFESSIONAL LOYALTY TAKEN BY THE RUSSIAN VETERINARIAN ON GRADUATION.

TRANSLATED BY DR. HENRY P. FOX, M.R.C.V.S.
(Graduate of the University of Kharkor, Russia.)

IN accepting with deepest gratitude the privilege granted to me by graduation in Veterinary Science, I promise to fulfil faithfully the duties of my profession and to act in accordance with its tenets. I promise to inform the farmers of the best application of hygiene in which to keep the domesticated animals, and to acquaint them with the preventive measures against epizootics; also to co-operate earnestly, by the aid of scientific methods, in the task of improving Russian animal husbandry. I promise not to forsake my veterinary studies, and on no pretext will I engage in human medical practice. I promise to endeavour to keep pace with the progress of veterinary science and to do my utmost to further its aims. I promise to disseminate among the people all useful information concerning veterinary science by the publication of everything which is worthy of it.

Reviews

Veterinary Materia Medica and Therapeutics. By E. WALLIS HOARE, F.R.C.V.S. 4th Edition. Edited and revised by Professor J. RUSSELL GREIG, M.R.C.V.S. Pp. 654. London: Baillière, Tindall and Cox. Price 21s. net.

When a work has reached its fourth edition it is proof positive that it has been appreciated by the members of the profession for whom it has been written, and Wallis Hoare's *Veterinary Materia Medica and Therapeutics* is now so well known as the standard text-book for the veterinary student, that it needs only a few words to bring it again forward. It is full from beginning to end of valuable information equally for the student and the practitioner, and it is a book which one can pick up and open anywhere with a certainty of finding some new idea and something of sterling value. It has been brought up to date in a most remarkable manner by Professor Russell Greig, and the careful and painstaking way in which old ideas have been re-written, and yet not entirely dismissed, displays a deep knowledge of the subject such as only an experienced teacher and keen observer can possibly have acquired. We have no hesitation in recommending it as a book which should find a place close at hand in the library of every veterinary surgeon.

The Topographical Anatomy of the Head and Neck of the Horse. By O. CHARNOCK BRADLEY, M.D., D.Sc., M.R.C.V.S. Pp. 228; 96 figures in the text. Edinburgh: W. Green & Son. Price 21s. net.

Comparative anatomists and students of the various veterinary schools will welcome as their text-book the work of such a master of his subject

as that which has been written by Professor Bradley. It is not only indispensable in the dissecting-room, but it is also useful to the practitioner who desires to refresh his memory before attempting some surgical operation. The detail and precision with which the subject is dealt displays the master hand all through, and the illustrations by Mr. James Murray, clear in every detail, add no inconsiderable amount of value to the work. Handy in size, and excellently bound and printed, we are sure that it has only to be seen to be purchased by every Class B student as his companion when working at a dissection subject.

The Medical Year Book, 1924. By CHARLES HEWITT. London: William Heinemann.

This handy volume of nearly 600 pages is intended as a guide to the medical profession in Great Britain. It contains diaries of all important medical meetings and congresses, official lists of medical officers connected with the Ministry of Health, lists of post-graduate courses, lists of members of all examining bodies, the hospital staffs, and those who are specialists and consultants in London and the provinces. It gives all particulars as regards the Army, the Navy, and the various public services, lists of medical works and pamphlets, which not only include those devoted to human ailments, but also a number of recent veterinary works, and finally a selected list of trades, businesses, and occupations associated with medical practice. It gives, too, a complete record of the current medical and allied periodicals published in the British Empire; in fact, it is a work of reference to which anyone connected with the medical profession may refer with a certainty of finding whatever he may require.

Diseases in Captive Wild Mammals and Birds. By HERBERT FOX, M.D. Pp. 665; 87 illustrations. J. V. Lippincott, 1924. Price 21s. net.

This book is of especial interest not only to the student of comparative pathology but to the veterinarian and the medical man. It is a most careful record of patient work made by Dr. Herbert Fox, who, as Pathologist to the Zoological Society of Philadelphia, has had an experience which is almost unique. During the past twenty years he has made over 5,000 post-mortem examinations on animals and birds, and the result is one of fascinating interest. He discusses their diseases from the most modern aspect, and his deductions include observations on the effect of insufficient and improper dietary as well as the sequelæ which might be supposed to result from the presence of parasites. So far as the work of one man can possibly have weight, Dr. Fox appears to have been a most patient worker, and the veterinarian whose professional life keeps him amongst the domesticated animals will compare with the greatest interest the ravages of modern diseases upon animals in captivity. The book is well worth earnest perusal, and one might remind the members of our profession that if the price is a little out of their reach, they might obtain a glimpse of this valuable work by asking for it to be obtained in the public library of the town in which they happen to live.

Dentition of the Camel. By D. S. RABAGHATI, O.B.E., B.Sc., F.R.C.V.S. Government Press, Cairo, 1924.

It is fortunate that amongst the men brought into contact with large numbers of camels during the late war, the author with his industry,

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enthusiasm and gift of appreciating detail and placing it upon record was one. We believe the work under review will become the standard one on the subject and deserves to do so.

It is definite and precise, and the information given is the result of the author's personal observations systematically recorded under circumstances which were favourable and unique for acquiring the knowledge, but extremely trying and enervating to the personal factor.

Not the least valuable portion of the book is the illustrations reproduced from drawings by Amen Effendi Abdou, to whom the author most rightly expresses his gratitude. The Egyptian Government Press is also entitled to thanks for so publishing the work that it can be offered for sale at one shilling.

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Royal Sanitary Institute

THE following is the programme of the Veterinary Section at the forthcoming Congress of the Royal Sanitary Institute, to be held in Liverpool on July 17th and 18th next. The subjects not only appeal to whole-time veterinary officers but to part-time ones, and also to practitioners who may be called in to advise people with regard to clean milk production and the housing of animals. They are of interest, too, to butchers and meat salesmen in regard to the protection of their interests in case of meat inspection.

PROGRAMME OF THE CONFERENCE OF VETERINARY INSPECTORS.

Thursday, July 17th.

President:

HENRY SUMNER, M.R.C.V.S.

Hon. Local Secretaries:

A. W. NOEL PILLERS, F.R.C.V.S.; H. T. MATTHEWS, B.V.Sc., M.R.C.V.S., D.V.H.

Recording Secretary:
J. R. HAYHURST, M.R.C.V.S., D.V.S.M.

(9.30 a.m. Meeting of Committee of Conference.)
10.0 a.m. to 2.0 p.m.

ADDRESS BY THE PRESIDENT, Henry Sumner, M.R.C.V.S.

"UNIFORMITY IN THE METHOD, STANDARD AND ACTION IN MEAT INSPECTION," by E. J. Burndred, M.C., M.R.C.V.S., D.V.H., Chief Meat Inspector, Blackburn.

DISCUSSION to be opened by H. L. Torrance, M.R.C.V.S., D.V.S.M., Veterinary Officer, Birkenhead.

Friday, July 18th.

(9.30 a.m. Meeting of Committee of Conference.)
10.0 a.m. to 2.0 p.m.

"CLEAN MILK, ITS PRODUCTION AND PROTECTION," by Hugh Begg, F.R.C.V.S., Chief Veterinary Inspector, Lanarkshire County Council.

DISCUSSION to be opened by Lieut.-Colonel J. W. Brittlebank, C.M.G., M.R.C.V.S., D.V.S.M., Veterinary Officer in Charge of Milk Control, Manchester.

"THE HYGIENIC CONSTRUCTION OF COWSHEDS, WITH SPECIAL REFERENCE TO CLEAN-MILK PRODUCTION," by Professor R. G. Linton, Royal (Dick) Veterinary College, Edinburgh.

DISCUSSION to be opened by T. Eaton Jones, F.R.C.V.S., Veterinary Superintendent, Liverpool.

NOTICES

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